Table A - 1   DRAFT CALFED ERP "PROGRAM-WIDE" PROGRAM PERFORMANCE INDICATORS

Goal 1: Native Species and Communities

System Attribute	Strategic Goal Objective Addressed	Performance Indicator	ST	LT	P	S	R	Justification
1. Bay Delta dependent Salmonids (by ESU and species)	1 - 1	a. measures of abundance and distribution by species	x	x		x		Salmonids range throughout the Central Valleys, upper watersheds, Delta and Bay and have been strongly impacted by human activities throughout the watershed particularly changes in the water management and flood control activities throughout the state. Salmonids also play a key role in stream ecology and healthy populations are essential to ecosystem integrity as well as being a popular harvestable species. Salmonids are expected to respond to many of the actions described in the ERP. As such salmonids are a good program-wide indicator for the effectiveness of CALFED's efforts to restore environmental health and will reflect progress in multiple CALFED objective areas. In addition, improvement in wild salmon populations is critically important for management decision-making at the end of CALFED's "Stage 1" and to reduce conflict with maintaining a reliable water supply.
		b. change in number and distribution of redds	x	x		x		
		c. change in smolt survival indices from select portions of migration routes		x		x		
		d. change in estimated annual cohort replacement rate		x		x		
		e. Composite multi-attribute index for "salmonid health" (develop)		x		x		
2. Other priority Delta dependent resident native fishes (includes Delta smelt; Splittail, Longfin Smelt, Green Sturgeon)	1-1,3	a. measures of abundance and distribution (by species) (Note: Delta smelt with 1-2 year life cycle may also serve as short term indicator)	x?	x	x	x		Native fishes are an integral part of natural aquatic communities; healthy populations are essential to ecosystem integrity (ERPP, Vol 1). Changes in water management and flood control activities have greatly altered the hydrology and available shallow water habitat in the Delta. Native fishes are expected to respond to changes by the ERP in these areas. In addition, improvement in Delta smelt and splittail populations are critically important for management decision-making at the end of CALFED's "Stage 1" and to reduce conflict with maintaining a reliable water supply.
		b. change in estimated annual cohort replacement rate		x		x		
		c. Composite "multi-attribute" index for Delta resident fish health (develop)		x		x		

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3. Direct fish mortality due to unnatural diversions	I - 1	a. change in annual population loss due to entrainment at SWP/CVP pumps (by species)	x	x	x	x	x	Direct mortality at the SWP/CVP pumps is hypothesized to be an important pressure for listed fish species living in or migrating through the Delta. CALFED will be focusing actions to try and reduce fish mortality and the effectiveness of those actions will be important for end of Stage 1 decision-making.
		b. change in # of unscreened diversions remaining in (Delta, selected waterways)		x	x		x	Fish mortality due to unscreened water diversions is hypothesized to be an important pressure on fish populations. Screening water diversions is a high priority action identified in ERPP and Phase II Report.
		c. Change in proportionate volume of total diverted water that is screened /unscreened for fish		x	x		x	Large diversions generally cause the most significant impacts on fish populations, so it is important to track changes in terms of water volume in addition to the number of diversions.
4. Priority native biological communities *Priority community types include neotropical migratory birds, wading birds, shore birds, waterfowl, estuarine and freshwater marsh plant communities, riparian plant communities, seasonal wetland plant communities*	I - 3	a. distribution and extent of priority community-types		x		x		Large-scale loss of wetlands and riparian habitats have occurred in the Delta and Central Valley due to changes in land use and flood control measures. Loss of the native biodiversity due to loss of habitat and other pressures disrupts natural food webs, energy flow, and community dynamics. Monitoring the status and trends of these biotic communities is important to assess progress towards improving ecosystem health and meeting CALFED objectives as well as the effectiveness of the sum total of CALFED actions in restoring functional habitat and reducing pressures in the system.
5. Other at-risk native species (see Objectives 1,2, 4 and MSCS)	I - 1,2,4	a. # of monitored animal/plant species designated "R" or "r" exhibiting sustained increase	x	x		x		The ERP is responsible for recovering (R) or contributing to the recovery (r) of 44 species. Tracking the status and trends of these species populations is necessary to assess progress in meeting CALFED objectives and regulatory requirements. However, some of these listed species may also be viewed as

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		b. # of monitored animal/plant species designated "m" exhibiting sustained increase	x	x		x		However, some of these listed species may also be viewed as the most sensitive species ("indicator species") to the many varied pressures on the ecosystem over the past decades. Improvements in the populations of some of these listed species and a decrease in the need to list more species in the future would be a good indicator of an overall improvement in ecosystem health.
		c. # of species with recovery criteria achieved (Note: separate into short term and long term species groups- those with at last 4 5 life cycles within 7 years could serve as ST indicators, others LT indicators)	x	x		x		
		d. abundance/distribution of key plant and animal species (to be determined)	x	x		x		

Note Letters designate indicator type: PSR = Pressure, State, Response and ST= Short term, LT = Long term indicators